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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/535,634

05/20/2005

Yongmin Li

36-1901

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23117

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06/25/2009

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EXAMINER

PONTIUS, JAMES M

ART UNIT

PAPER NUMBER

2621

MAIL DATE

DELIVERY MODE

06/25/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/535,634	Applicant(s) LI ET AL.	
	Examiner JAMES PONTIUS	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5/20/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 May 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/13/2005; 6/16/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. Figures 2 and 15 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 1 and 6 are objected to because of the following informalities:
"characterised" should be spelled "characterized". Appropriate correction is required.

3. Claim 3 is objected to because of the following informalities: the phrase "according to any of claims 1" should read "according to claim 1". Appropriate correction is required.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

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Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 1-3 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent and recent Federal Circuit decisions indicate that a statutory “process” under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus); or (2) transform underlying subject matter (such as an article or material) to a different state or thing. While instant claims 1-3 recite a series of steps or acts to be performed, the claim neither transforms underlying subject matter nor is positively tied to another statutory category that accomplishes the claimed method steps, and therefore does not qualify as a statutory process. For example, it is unclear what performs, in electronic form the positioning, selecting, determining, accumulating, warping and calculating steps recited in the method claims.

6. Claim 1-3 are rejected under 35 U.S.C. 101 because invention is directed towards non-statutory subject matter (Please see the MPEP 2106 Section IV. Determine Whether the Claimed Invention Complies with 35 U.S.C. 101). The specification at page 10, lines 21-25, indicates that the invention can be implemented in software. Since the software is not embodied within a computer readable medium, the invention is directed towards non-statutory subject matter.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-2 and 4-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Jinzenji et al. (US Patent # 6,977,664 B1).

9. Regarding claims 1 and 6, Jinzenji discloses:

A method of, and system for, generating panoramic images from a motion-compensated inter-frame encoded video sequence, the method comprising:

image registration means for, and the step of, positioning the image of each frame of the sequence on a panoramic image reference plane, such that the respective images of each frame are in registration with each other, and one or more pixel values are available for each pixel position in the reference plane (Jinzenji col 8, line 32-56);
and

for each pixel position in the reference plane, pixel selection means arranged in use to select, and the step of selecting, one of the available pixel values for use as the pixel value in the panoramic image (Jinzenji col 8, line 32-56);

the method, and system, being characterised in that the selecting step further comprises background pixel selection means for, and the step of, selecting a substantially median pixel value from the available pixel values for use in a background panoramic image (Jinzenji col 10, line 8-11) and/or foreground pixel selection means for, and the step of, selecting a substantially most different pixel value from the available pixel values for use in a foreground panoramic image (Jinzenji col 8, line 47-51; using a threshold to select the most different pixel).

10. Regarding claims 2 and 7, Jinzenji discloses:

A method according to claim 1, and a system according to claim 6, wherein the positioning step, and the image registration means, further comprises:

motion estimator means for, and the step of, determining global motion estimations for each frame in the sequence (Jinzenji col 8, line 32-56);

frame selector means for, and the step of, selecting a particular frame of the sequence as a reference frame, the plane of the reference frame being the panoramic image reference plane (Jinzenji col 8, line 32-56);

for each frame other than the reference frame, motion estimation accumulator means for, and the step of, accumulating the global motion estimations from each frame back to the reference frame (Jinzenji col 8, line 32-56); and

frame warping means for, and the step of, warping each frame other than the reference frame onto the reference plane using the accumulated global motion estimations to give one or more pixel values for each pixel position in the reference

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plane (Jinzenji col 8, line 32-56; frame warping occurs when frames are mapped to the reference coordinate system using global motion so as to insert or overwrite pixels).

11. Regarding claim 4, Jinzenji discloses:

A computer program or suite of programs arranged such that when executed on a computer system the program or suite of programs causes the computer system to perform the method of claim 1 (Jinzenji col 22, line 31-55).

12. Regarding claim 5, Jinzenji discloses:

A computer readable storage medium storing a computer program or suite of programs according to claim 4 (Jinzenji col 22, line 31-55).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claim 3 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jinzenji et al. (US Patent # 6,977,664 B1) in view of Szeliski et al. (US Patent # 6,348,918 B1).

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15. Regarding claims 3 and 8-9,

Jinzenji teaches:

A method according to any of claims 1,

A system according to claim 6,

Jinzenji fails to teach:

calculator means arranged in use to calculate, and the step of calculating:

the mean pixel value of the available pixel values;

the L1 distance between each available pixel value and the calculated mean pixel value; and

a median pixel selector arranged to select, and the step of selecting, the pixel value with the median L1 distance for use in a background panoramic image; and

a maximum pixel selector arranged to select, and the step of selecting, the pixel value with the maximum L1 distance for use in a foreground panoramic image.

Szeliski teaches:

calculator means arranged in use to calculate, and the step of calculating:

the mean pixel value of the available pixel values (Szeliski col 8, line 57-65; taking the mean of the color or intensity values.);

the L1 distance between each available pixel value and the calculated mean pixel value (Szeliski col 8, line 57-65; where the averaging is weighted by the distance of each pixel from the nearest invisible pixel.); and

a median pixel selector arranged to select, and the step of selecting, the pixel value with the median L1 distance for use in a background panoramic image (Szeliski col 8, line 57-65; using the median technique); and

a maximum pixel selector arranged to select, and the step of selecting, the pixel value with the maximum L1 distance for use in a foreground panoramic image (Szeliski col 8, line 57-65; the simplest technique is the median technique, but many others exist. This portion of Szeliski discloses blending specifically for a background image. This portion of Szeliski also discloses blending generally. Instead of using the median technique for blending background pixels, a maximum technique is obvious for blending foreground pixels. This is because foreground pixels are most different from background pixels).

It would have been obvious to a person having ordinary skill in the art to combine the teachings of Szeliski with Jinzenji. Using the blending technique of Szeliski would smooth out disparities of the panoramic image of Jinzenji, thus creating a panoramic image with increased image quality (Szeliski col 9, line 6-8).

Double Patenting

16. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir.

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1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

17. Claim 1-9 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 11-16 and 26-31 of copending Application No. 10/535,621. Although the conflicting claims are not identical, they are not patentably distinct from each other because Application No. 10/535,621 discloses claims 1 and 6 ('621 claims 11-14 and 26-29; '621 pg 24, line 19 - pg 26, line 8), claims 2 and 7 ('621 claims 11-12 and 26-27; '621 pg 24, line 19 - pg 25, line 32), claims 3 and 8-9 ('621 claims 15-16 and 30-31; '621 pg 26, line 11 - pg 27, line 20), and claims 4-5 ('621 pg 12, line 11 - pg 16, line 30).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

18. Claims 1-9 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 6-11 and 19-24 of copending Application No. 10/535,420. Although the conflicting claims are not identical, they are not patentably distinct from each other because Application No. 10/535,420 discloses claims 1 and 6 ('420 claims 6-9 and 19-22; '621 pg 24, line 6 - pg 25, line 30), claims 2

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and 7 ('420 claims 6-7 and 19-20; '621 pg 24, line 6 - pg 25, line 19), claims 3 and 8-9 ('621 claims 10-11 and 23-24; '420 pg 25, line 31 - pg 26, line 24), and claims 4-5 ('420 pg 11, line 33 - pg 16, line 17).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES PONTIUS whose telephone number is (571) 270-7687. The examiner can normally be reached on Monday - Thursday, 8 AM - 4 PM est..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. P./

Examiner, Art Unit 2621

/Andy S. Rao/

Acting Supervisory Patent Examiner, Art Unit 2621

June 22, 2009